



Complete Summary

GUIDELINE TITLE

Adult preventive health care: immunizations.

BIBLIOGRAPHIC SOURCE(S)

University of Michigan Health System. Adult preventive health care: immunizations. Ann Arbor (MI): University of Michigan Health System; 2004 May. 9 p. [9 references]

COMPLETE SUMMARY CONTENT

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SCOPE

DISEASE/CONDITION(S)

- Influenza
- Pneumonia
- Tetanus
- Diphtheria
- Hepatitis A
- Hepatitis B
- Measles
- Mumps
- Rubella
- Varicella
- Meningitis

GUIDELINE CATEGORY

Prevention

CLINICAL SPECIALTY

Allergy and Immunology
Family Practice
Geriatrics
Infectious Diseases
Internal Medicine

INTENDED USERS

Physicians

GUIDELINE OBJECTIVE(S)

To implement an evidenced-based strategy for routine adult immunizations

TARGET POPULATION

Adults, 18 years and older

INTERVENTIONS AND PRACTICES CONSIDERED

Adult immunizations, including:

1. Influenza vaccine
2. Pneumococcal polysaccharide vaccine
3. Tetanus and diphtheria booster
4. Hepatitis B vaccine series
5. Hepatitis A vaccine series
6. Measles, mumps, rubella vaccine
7. Varicella vaccine series
8. Meningococcal vaccine

MAJOR OUTCOMES CONSIDERED

- Disease attributable mortality and morbidity
- Disease progression
- Adverse effects
- Hospitalization for complications

METHODOLOGY

METHODS USED TO COLLECT/SELECT EVIDENCE

Searches of Electronic Databases

DESCRIPTION OF METHODS USED TO COLLECT/SELECT THE EVIDENCE

The literature searches for this project were conducted prospectively on Medline for literature published since 1/1/95. A search was performed using the major key words adults, humans, English, plus the terms described below for each topic. (The specific key words associated with a term are detailed in parentheses

following the first time a term is used.) The searches were conducted in components each keyed to a specific causal link in a formal problem structure (available upon request). The searches were supplemented with very recent clinical trials known to expert members of the panel. Negative trials were specifically sought. The searches were single cycle.

The additional search terms were: immunizations (toxoids, diphtheria toxoid, diphtheria-tetanus-pertussis vaccine, tetanus toxoid, vaccines, bacterial vaccines, BCG vaccines, typhoid-paratyphoid vaccines, cancer vaccines, attenuated vaccines, combined vaccines, inactivated vaccines, synthetic vaccines, conjugate vaccines, DNA vaccines, viral vaccines, chickenpox vaccine, influenza vaccine, measles vaccine, poliovirus vaccine, oral poliovirus vaccine, rubella vaccine, viral hepatitis vaccines, hepatitis B vaccines, immunization, passive immunization, adoptive immunotherapy, immunization schedule, secondary immunization, active immunotherapy, vaccination), preventive services, guidelines, research studies.

NUMBER OF SOURCE DOCUMENTS

Not stated

METHODS USED TO ASSESS THE QUALITY AND STRENGTH OF THE EVIDENCE

Weighting According to a Rating Scheme (Scheme Given)

RATING SCHEME FOR THE STRENGTH OF THE EVIDENCE

Levels of evidence reflect the best available literature in support of an intervention or test:

- A. Randomized controlled trials
- B. Controlled trials, no randomization
- C. Observational trials
- D. Opinion of expert panel

METHODS USED TO ANALYZE THE EVIDENCE

Systematic Review

DESCRIPTION OF THE METHODS USED TO ANALYZE THE EVIDENCE

Not stated

METHODS USED TO FORMULATE THE RECOMMENDATIONS

Expert Consensus

DESCRIPTION OF METHODS USED TO FORMULATE THE RECOMMENDATIONS

Consideration of benefits, harms, costs, and patient preferences.

RATING SCHEME FOR THE STRENGTH OF THE RECOMMENDATIONS

Not applicable

COST ANALYSIS

A formal cost analysis was not performed and published cost analyses were not reviewed.

METHOD OF GUIDELINE VALIDATION

Peer Review

DESCRIPTION OF METHOD OF GUIDELINE VALIDATION

University of Michigan Health System (UMHS) guidelines are reviewed by faculty members of departments to which the content is most relevant. This guideline concerning adult immunizations was reviewed by members of the departments of: Family Medicine and Internal Medicine's Divisions of General Medicine and of Infectious Diseases. Guidelines are approved by the Executive Committee for Clinical Affairs.

RECOMMENDATIONS

MAJOR RECOMMENDATIONS

Note from the National Guideline Clearinghouse (NGC): The following key points summarize the content of the guideline. Refer to the original guideline document for additional information. The levels of evidence [A-D] are defined at the end of the "Major Recommendations" field.

Influenza Vaccine

Initial: one dose

- Adults >50 years old [B]
- Persons with chronic disease (e.g., heart, pulmonary renal, metabolic, sickle cell anemia, immunosuppression)
- Residents of chronic care facilities [B]
- Health care workers [A]
- Others who can transmit influenza to a high risk population
- Pregnancy: women >14 weeks gestation during the flu season

Revaccinate: annually

- Persons eligible under criteria for initial immunization

Pneumococcal Polysaccharide Vaccine

Initial: one dose

- All adults >65 years old [B]
- Persons with chronic disease aged 2 to 64 (e.g., heart, pulmonary [except asthma], diabetes, kidney, liver, alcoholism, sickle cell anemia, immunosuppressed, asplenic)
- Native Americans and Native Alaskans

Revaccinate: once only (not required for normal risk patients)

- Age: persons age ≥ 65 if initial vaccine ≥ 5 years previously at age <65 [A].
- Chronic disease: highest risk for pneumococcal infection or rapid decline in antibody (e.g., asplenic, transplant recipient, human immunodeficiency virus (HIV), nephrotic syndrome, malignancy, chronic renal failure, immunosuppressed): revaccinate ≥ 5 years after initial dose.

Tetanus and Diphtheria Booster (Td) (primary series assumed)

Revaccinate: every 10 yrs

- All patients [A]. A single booster at age 50 years may be equivalent to the decennial booster [C].

Revaccinate: in ≥ 5 years

- Patients with wounds (other than clean or minor wounds)

Hepatitis B Vaccine Series

Initial: three doses at 0, 1, and 6 months

- Adults in high-risk groups including patients receiving plasma derivatives repeatedly, individuals with multiple sex partners, men who have sex with men, hemodialysis patients (early in disease), intravenous (IV) drug users and sexual partners, immigrants from and travelers to high risk areas
- Healthcare workers who are exposed to blood, clients and staff of institutions for the developmentally disabled and mentally retarded
- Household contacts and sexual partners of persons with chronic hepatitis B virus (HBV)

Revaccinate: none now

- No information on long-term efficacy. Some patients may need booster doses in future.

Hepatitis A Vaccine Series

Initial: two doses at 0 and 6 to 12 months

- Persons with chronic liver disease [A], persons with clotting disorders

- Men who have sex with men, illicit drug-users
- Travelers to countries where there is higher or intermediate hepatitis A virus (HAV) endemicity
- Persons with occupational risk who work with HAV-infected primates

Revaccinate: none

Measles, Mumps, Rubella Vaccine (use MMR vaccine)

Initial: two doses at 0 and ≥ 1 month

- No evidence of immunity* to measles and are:
 - Health care workers
 - College students (first dose may be required before admission to classes)
 - Travelers to foreign countries
 - Asymptomatic HIV+ patients without severe immunosuppression (CD4 >200)
 - Recently exposed to measles or are in an outbreak setting

One dose

- Women of childbearing age with no evidence of immunity* to rubella [A] (Avoid pregnancy for at least 4 weeks after immunization.)
- Health care workers with evidence of immunity* to measles but no evidence of immunity* to rubella
- Evidence of immunity* to measles but no evidence of immunity* either to rubella or to mumps and are:
 - College students (first dose may be required before admission to classes)
 - Travelers to foreign countries

Revaccinate: two doses at 0 and ≥ 1 month

- Previously vaccinated with killed measles vaccine, or between 1963 and 1967 with an unknown measles vaccine

One dose

- Consider for previously vaccinated with killed mumps vaccine, or before 1979 with an unknown mumps vaccine

*Evidence of immunity:

- a. Documentation of MMR vaccination (2 doses for measles, 1 dose for rubella or mumps),
- b. Laboratory evidence of immunity,
- c. Documentation of physician diagnosis, or
- d. Born before 1957 (age exceptions: rubella immunity not assumed for women of child-bearing age who could become pregnant; measles and mumps immunity possibly not assumed for health care workers).

Varicella Vaccine Series

Initial: two doses at 0 and 4 to 8 weeks

- Healthcare workers without reliable histories of varicella or who have no serologic immunity
- Susceptible family and close contacts of immunocompromised persons
- Consider for susceptible persons who are at high risk for exposure (e.g., teachers of young children, college students, inmates and staff of correctional institutions, residents and staff of institutional settings, day-care workers, military personnel, international travelers) and for women of childbearing age considering pregnancy.

Revaccinate: none

Meningococcal Vaccine

Initial: one dose

- High-risk groups: functional or anatomic asplenia or terminal complement component deficiencies
- Travelers to sub-Saharan Africa from Senegal in the west to Ethiopia in the east, especially from December to June.
- Consider for persons with occupational risk: routinely exposed to *Neisseria meningitidis* (may be in aerosolized solutions) in laboratories
- Consider for college freshmen living in residence halls

Revaccinate: once every 3 to 5 years

- The above persons if indications (higher risk) still exist for vaccination

Definitions:

Levels of Evidence

- A. Randomized controlled trials
- B. Controlled trials, no randomization
- C. Observational trials
- D. Opinion of expert panel

CLINICAL ALGORITHM(S)

None provided

EVIDENCE SUPPORTING THE RECOMMENDATIONS

TYPE OF EVIDENCE SUPPORTING THE RECOMMENDATIONS

The type of supporting evidence is identified and graded for each recommendation (see "Major Recommendations").

Conclusions were based on prospective randomized clinical trials (RCTs) if available, to the exclusion of other data; if RCTs were not available, observational studies were admitted to consideration. If no such data were available for a given link in the problem formulation, expert opinion was used to estimate effect size.

BENEFITS/HARMS OF IMPLEMENTING THE GUIDELINE RECOMMENDATIONS

POTENTIAL BENEFITS

- Effective and timely administration of vaccines
- Decline in vaccine-preventable diseases

POTENTIAL HARMS

Rubella: No documented cases of congenital rubella syndrome (CRS) have resulted from vaccination in early pregnancy, but this practice is not recommended.

CONTRAINDICATIONS

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- Influenza vaccine: patients with severe egg allergy should not receive the influenza vaccine.
- Pneumococcal polysaccharide vaccine: routine revaccination of immunocompetent persons previously vaccinated with 23-valent polysaccharide vaccine is not recommended.
- Measles, mumps and rubella: pregnancy should be avoided for 4 weeks following immunization as this is a live vaccine.

QUALIFYING STATEMENTS

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These guidelines should not be construed as including all proper methods of care or excluding other acceptable methods of care reasonably directed to obtaining the same results. The ultimate judgment regarding any specific clinical procedure or treatment must be made by the physician in light of the circumstances presented by the patient.

IMPLEMENTATION OF THE GUIDELINE

DESCRIPTION OF IMPLEMENTATION STRATEGY

An implementation strategy was not provided.

IMPLEMENTATION TOOLS

Patient Resources

For information about [availability](#), see the "Availability of Companion Documents" and "Patient Resources" fields below.

INSTITUTE OF MEDICINE (IOM) NATIONAL HEALTHCARE QUALITY REPORT CATEGORIES

IOM CARE NEED

Staying Healthy

IOM DOMAIN

Effectiveness
Patient-centeredness

IDENTIFYING INFORMATION AND AVAILABILITY

BIBLIOGRAPHIC SOURCE(S)

University of Michigan Health System. Adult preventive health care: immunizations. Ann Arbor (MI): University of Michigan Health System; 2004 May. 9 p. [9 references]

ADAPTATION

The guideline was partially adapted from:

Recommended Adult Immunization Schedule by Age Group and Medical Conditions, United States, 2003-2004: Summary of Recommendations Published by the Advisory Committee on Immunization Practices. Atlanta, GA: Centers for Disease Control and Prevention, 2003. Available at: www.cdc.gov/nip/recs/adult-schedule.pdf.

DATE RELEASED

2004 May

GUIDELINE DEVELOPER(S)

University of Michigan Health System - Academic Institution

SOURCE(S) OF FUNDING

University of Michigan Health System

GUIDELINE COMMITTEE

Immunizations Guideline Team

COMPOSITION OF GROUP THAT AUTHORED THE GUIDELINE

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Team Members: R. Van Harrison, PhD, Medical Education; Connie J. Standiford, MD, General Medicine

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Guidelines Oversight Team: Connie J. Standiford, MD; Lee A. Green, MD, MPH; R. Van Harrison, PhD

FINANCIAL DISCLOSURES/CONFLICTS OF INTEREST

The University of Michigan Health System endorses the Guidelines of the Association of American Medical Colleges and the Standards of the Accreditation Council for Continuing Medical Education that the individuals who present educational activities disclose significant relationships with commercial companies whose products or services are discussed. Disclosure of a relationship is not intended to suggest bias in the information presented, but is made to provide readers with information that might be of potential importance to their evaluation of the information.

Team Member/Relationship Company:

Sandro K. Cinti, MD (none)
R. Van Harrison, PhD (none)
Pamela G. Rockwell, DO (none)
Connie J. Standiford, MD (none)

GUIDELINE STATUS

This is the current release of the guideline.

GUIDELINE AVAILABILITY

Electronic copies: Available for download in Portable Document Format (PDF) from the [University of Michigan Health System Web site](#).

AVAILABILITY OF COMPANION DOCUMENTS

None available

PATIENT RESOURCES

The following are available:

- Influenza vaccine. Patient education handout. University of Michigan Health System; 2004 Apr. Various p.

Electronic copies: Available from the [University of Michigan Health System Web site](#).

- Tetanus vaccine. Patient education handout. University of Michigan Health System; 2004 Jul. Various p.

Electronic copies: Available from the [University of Michigan Health System Web site](#).

Please note: This patient information is intended to provide health professionals with information to share with their patients to help them better understand their health and their diagnosed disorders. By providing access to this patient information, it is not the intention of NGC to provide specific medical advice for particular patients. Rather we urge patients and their representatives to review this material and then to consult with a licensed health professional for evaluation of treatment options suitable for them as well as for diagnosis and answers to their personal medical questions. This patient information has been derived and prepared from a guideline for health care professionals included on NGC by the authors or publishers of that original guideline. The patient information is not reviewed by NGC to establish whether or not it accurately reflects the original guideline's content.

NGC STATUS

This NGC summary was completed by ECRI on October 12, 2004. The information was verified by the guideline developer on October 22, 2004.

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